

Analysis of Diesel Engine Performance Fueled With Waste Cooking Oil

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ABSTRACT

Waste cooking oil (WCO) is one of the economical and easiest sources for biodiesel production. The use of WCO in diesel engine is sustainable if they can perform similarly to diesel fuel. Therefore, this paper presents the performance and combustion characteristics of a single cylinder diesel engine fueled with biodiesel from WCO and compared with diesel fuel. In this study, the WCO was blended with diesel fuel at 5% and 10% blending ratio and named as B5 and B10 respectively. The experiment has been conducted at variable engine speed, constant load and at compression ratios of 17.7. The performance parameters that have been analyzed in this experiment were engine power, torque and in-cylinder pressure. In the end, results show that the engine performance of B5 and B10 was slightly similar to diesel fuel and can be used as a diesel's substitute. © (2014) Trans Tech Publications, Switzerland.

KEYWORDS : Alternative fuel; Biodiesel; Diesel engine and engine performance; Waste cooking oil

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